National Park Service
U.S. Department of the Interior

Curecanti National Recreation Area
Colorado

CURECANTI
NATIONAL RECREATION AREA

Personal Watercraft Use

Environmental Assessment

April 2003

SUMMARY

Curecanti National Recreation Area (Curecanti) was established in 1965 to provide for conservation of scenic, natural, historic, archeological and wildlife values. The goal of the National Recreation Area is to provide for public use and enjoyment while ensuring visitor safety, resource preservation and conservation. Curecanti is located on U.S. Highway 50 (U.S. 50), west of Gunnison, Colorado.

The purpose of and the need for taking action is to evaluate a range of alternatives and strategies for managing personal watercraft (PWC) use at Curecanti to ensure the protection of park resources and values while offering recreational opportunities as provided for in the national recreation area's authorizing memorandum of agreement, purpose, mission, and goals. Upon completion of this process, in accordance with the *National Environmental Policy Act* (NEPA), the National Park Service (NPS) may either take action to adopt special regulations to manage PWC use, or it may not reinstate PWC use at this park unit.

BACKGROUND

More than one million personal watercraft are estimated to be in operation today in the United States. Sometimes referred to as "jet skis" or "wet bikes," these vessels use an inboard, internal combustion engine powering a water jet pump as its primary source of propulsion. They are used for enjoyment, particularly for touring and maneuvers such as wave jumping, and they are capable of speeds in the 60 mile-per-hour (mph) range. Personal watercraft were once the fastest growing segment of the boating industry and represented over one-third of total sales. National PWC ownership increased every year between 1991 and 1998; the rate of annual increase peaked in 1994 at 32% and dropped slightly in 1999, 2000, and 2001. While PWC use remains a relatively new recreational activity, it has occurred in 32 of the 87 national park system units that allow motorized boating.

After studies in Everglades National Park showed that PWC use resulted in damage to vegetation, adversely impacted shorebirds, and disturbed the life cycles of other wildlife, the NPS prohibited PWC use by a special regulation at the park in 1994. In recognition of its duties under its *Organic Act* and NPS *Management Policies,* as well as increased awareness and public controversy about PWC use, the National Park Service subsequently reevaluated its methods of PWC regulation. Historically, the National Park Service had grouped personal watercraft with all vessels; thus, PWC use was allowed when the unit's superintendent's compendium allowed the use of other vessels. Later, the National Park Service closed seven units to PWC use through the implementation of horsepower restrictions, general management plan revisions, and park-specific regulations such as those promulgated by Everglades National Park.

In May 1998, the Bluewater Network filed a petition urging the National Park Service to initiate a rulemaking process to prohibit PWC use throughout the national park system. In response to the petition, the National Park Service issued an interim management policy requiring superintendents of parks where PWC use can occur but had not yet occurred to close the unit to such use until the rule was finalized. The National Park Service envisioned the servicewide regulation as an opportunity to evaluate impacts from PWC use before authorizing the use. On March 21, 2000, the National Park Service issued a regulation prohibiting PWC use in most units and required 21 units to determine the appropriateness of continued PWC use.

In response to the PWC final regulation, Bluewater Network sued the National Park Service, challenging the NPS' decision to allow continued PWC use in 21 units while prohibiting PWC use in other units. In response to the suit, the National Park Service and the environmental group negotiated a settlement. Each

park desiring to continue long-term PWC use must promulgate a park-specific special regulation in 2002. In addition, the settlement stipulates that the National Park Service must base its decision to issue a park-specific special regulation to continue PWC use through an environmental analysis conducted in accordance with NEPA. The NEPA analysis at a minimum, according to the settlement, must evaluate PWC impacts on water quality, air quality, soundscapes, wildlife, wildlife habitat, shoreline vegetation, visitor conflicts, and visitor safety.

As the settlement deadline approached and the park units were preparing to prohibit PWC use, the National Park Service, Congress, and PWC user groups sought legal methods to keep the parks open to this activity. However, no method was successful. After November 6, 2002, Curecanti was closed for PWC use. If, as a result of this environmental assessment, an alternative is selected that would allow PWC use to be reinstated, then a special regulation to authorize that use will be drafted.

ALTERNATIVES CONSIDERED

This environmental assessment evaluates three alternatives concerning the use of personal watercraft at Curecanti.

- Alternative A would reinstate PWC use under a special regulation as previously managed.
- Alternative B would reinstate PWC use under a special regulation with additional management prescriptions. (The park has identified alternative B as the preferred alternative.)
- The no-action alternative would allow no PWC use. No special rule would be promulgated.

Based on the environmental analysis prepared for PWC use at Curecanti, alternative B is considered the environmentally preferred alternative because it would best fulfill park responsibilities as trustee of this sensitive habitat; ensure safe, healthful, productive, and aesthetically and culturally pleasing surroundings; and attain a wider range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.

ENVIRONMENTAL CONSEQUENCES

Impacts of the three PWC management alternatives were assessed in accordance with *Director's Order #12: Conservation Planning, Environmental Impact Analysis and Decision-Making.* The *Director's Order #12 Handbook* requires that impacts to park resources be analyzed in terms of their context, duration, and intensity. It is crucial for the public and decision-makers to understand the implications of those impacts in the short and long term, cumulatively, and within context, based on an understanding and interpretation by resource professionals and specialists.

To determine impacts, methodologies were identified to measure the change in park resources that could occur with the implementation of the PWC management alternatives. Thresholds were established for each impact topic to help understand the severity and magnitude of changes in resource conditions, both adverse and beneficial.

Each PWC management alternative was compared to a baseline to determine the context, duration, and intensity of resource impacts. The baseline, for purposes of impact analysis, is the reinstatement of PWC use and previous management projected over the next 10 years (alternative A).

Table A summarizes the results of the impact analysis for the impact topics that were assessed in the "Environmental Consequences" chapter. The analysis considered a 10-year period (2002–2012).

TABLE A: SUMMARY OF THE IMPACT ANALYSIS

Impact Topic	Alternative A: Reinstate PWC Use under a Special Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Allow No PWC Use
Water Quality	PWC use impacts: Negligible to minor adverse effects in 2002 and 2012 based on impacts from benzo(a)pyrene, naphthalene and benzene (human health (ingestion of water and fish). Cumulative impacts: Negligible adverse in 2002 and 2012 for benzo(a)pyrene, naphthalene, and benzene would be minor to moderate adverse based on human health benchmarks and EPA and State of Colorado water quality criteria. Impacts would be reduced to minor adverse impacts when the half-life of benzene is considered.	PWC use impacts: Same as alternative A. Cumulative impacts: Same as alternative A.	PWC use impacts: Beneficial impact with eliminating personal watercraft. Cumulative impacts: Similar to alternative A, remaining motorboats would be negligible adverse for all ecotoxicological benchmarks. Impacts would be reduced to minor adverse impacts when the half-life of benzene is considered.
Air Quality	PWC use impacts: Negligible adverse impacts for CO, HC, PM_{10} and NO_x for the year 2002. In 2012, the impact level would remain negligible adverse. Risk from PAH would be negligible. Cumulative impacts: Negligible adverse for PM_{10}, HC, and NO_x, and minor adverse for CO in 2002 and 2012. CO emissions would increase from 2002 to 2012. Existing air quality maintained, with future reductions in PM_{10} and HC emissions due to improved emission controls.	PWC use impacts: Same as alternative A. Cumulative impacts: Same as alternative A.	PWC use impacts: Beneficial impacts from banning PWC use because of decreased emissions. Cumulative impacts: Reduced emissions from other craft as compared to alternative A, with no contribution from PWC use. Negligible adverse for PM_{10}, HC, and NO_x, to minor adverse for CO. Future emission levels would remain relatively stable, with increased CO emissions and slightly increased NO_x emissions as a result of increased boating activity and the conversion to cleaner engines. HC and PM_{10} would continue to decline, but impacts would remain negligible to minor and adverse.
Air Quality Related Values from PWC Pollutants	PWC use impacts: Minor adverse impacts from PWC. Cumulative impacts: Minor adverse from motorized boats and personal watercraft in both 2002 and 2012 based on pollutant emissions being less than 50 tons per year, no observed visibility impacts or ozone-related plant injury, and regional SUM06 values, with very little influence from existing or forecast Curecanti watercraft operations.	PWC use impacts: Same as alternative A. Cumulative impacts: Same as alternative A.	PWC use impacts: Beneficial impacts on air quality related values. Cumulative impacts: Minor adverse impacts from motorized boat emissions in both 2002 and 2012, based on regional SUM06 values, with very little influence from existing or forecast Curecanti watercraft operations.

Impact Topic	Alternative A: Reinstate PWC Use under a Special Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Allow No PWC Use
Soundscapes	PWC use impacts: Minor to moderate adverse impacts at most locations on Blue Mesa Reservoir and immediate surrounding area. Impact would be related to the number of personal watercraft operating as well as the sensitivity of other visitors. Cumulative impacts: Minor to moderate adverse with sounds heard occasionally throughout the day, and may predominate on busy days during the high use season.	PWC use impacts: Similar to alternative A except beneficial impacts from speed and wake restrictions and creation of buffer zones. Cumulative impacts: Similar to alternative A.	PWC use impacts: Occasionally noticeable beneficial effect from banning personal watercraft since on the high use days personal watercraft compromise approximately 7% of total motorized use. Cumulative impacts: Beneficial impact with no PWC contribution.
Wildlife and Wildlife Habitat	PWC use impacts: Negligible adverse effects on fish, and negligible to minor impacts on waterfowl and other wildlife. Impacts to fish, wildlife and respective habitats would be temporary and short term. Cumulative impacts: Minor adverse effects on wildlife and wildlife would be temporary and short term.	PWC use impacts: Similar to alternative A except additional limitations on PWC use would slightly reduce impacts on wildlife. Expanded wake restrictions would result in a beneficial impact. Cumulative impacts: Same as alternative A.	PWC use impacts: Beneficial impact with elimination of interactions between PWC users and wildlife with potential increased use of these areas by wildlife and waterfowl. Cumulative impacts: Similar to alternative A except no PWC contribution to overall impacts to wildlife and wildlife habitat.
Threatened and Endangered, and Special Concern Species	PWC use impacts: May affect, but is not likely to adversely affect to federal or state listed species. All park sensitive species are unlikely to be affected in the short or long term. Cumulative impacts: Not likely to adversely effect listed species to special status species due to lack of species occurrences as well as a lack of access to the species or their habitats.	PWC use impacts: Similar to alternative A except buffer zones and speed restrictions could result in beneficial impacts to some species. Cumulative impacts: Similar to alternative A.	PWC use impacts: Beneficial impact to the wildlife species of concern due to a ban on PWC use. Cumulative impacts: Similar to alternative A except PWC contribution to overall cumulative impacts to protected species would be eliminated.
Shorelines and Shoreline Vegetation	PWC use impacts: Negligible adverse effect over the short and long-term. Cumulative impacts: Negligible to minor adverse in the short and long- term due to wind-related erosion, wave action, and other visitor activities such as boating.	PWC use impacts: Beneficial impacts over the short and long term. The shoreline buffer would provide some additional protection. Cumulative impacts: Beneficial impacts due to shoreline buffer.	PWC use impacts: Beneficial impacts over the short and long term from banning PWC use. Cumulative impacts: Negligible to minor, but adverse, due to continued boating use and some wind-related erosion.

Impact Topic	Alternative A: Reinstate PWC Use under a Special Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Allow No PWC Use
Visitor Use and Experience	PWC use impacts: Negligible to minor adverse impacts on experiences for most visitors in the short and long-term. Swimmers and other motorized boat users would be most affected by PWC use because of the popularity of the day use areas especially at Dry Creek Picnic Area, Bay of Chickens, and the windsurfing beach. Long-term negligible to minor adverse impacts for visitors who desire a more passive recreational experience and desire natural quiet. Cumulative impacts: Negligible to minor adverse impacts in the short and long-term.	PWC use impacts: Negligible to minor adverse impact on most PWC users, because most of the more popular PWC use locations at the park would remain available. Shoreline users seeking more natural surroundings, and non-motorized and motorized boaters using the lake arms would experience beneficial impacts and visitors using the main body would experience negligible to minor adverse impacts. Cumulative impacts: Similar to alternative A.	PWC use impacts: Beneficial impact on the experiences of most non-PWC using visitors due to the ban of personal watercraft. Impacts on PWC users, particularly local residents would be short and long term, moderate to major, and adverse. Cumulative impacts: Beneficial as compared to alternative A. Negligible to minor adverse impacts at other waterbodies in the region as a result of PWC users going to other locations to enjoy this activity.
Visitor Conflicts and Safety	PWC use impacts: Short-term negligible to minor adverse and long-term, minor adverse impacts on visitor conflicts and safety, particularly in the noted high PWC use locations due to the number of visitors and boats present on high use days, as well as a concentration of conflicting uses. Conflicts at other locations would remain negligible adverse because use is lower and conflicts would be less likely to occur. Cumulative impacts: Minor adverse for all user groups in the short and long term, particularly near the high-use areas; negligible adverse in other areas of the reservoir.	PWC use impacts: Short- and long-term, minor to moderate adverse impacts on visitor conflicts and safety in the high use areas and boat launches due to the number of visitors and boats present on high use days, as well as a concentration of conflicting uses. Conflicts along the south shore and at lake-arm locations would be negligible to minor adverse because PWC zoning would reduce the potential for conflicts. Cumulative impacts: Minor to moderate adverse for all user groups in the short and long term, particularly near the high-use areas. Cumulative impacts in lake arms would be negligible adverse because of reduced use.	PWC use impacts: Short- and long-term, beneficial impacts by reducing visitor conflicts and enhancing safety. PWC-related contributions to overall cumulative impacts to visitor safety would be eliminated. Visitor safety impacts from other sources would be beneficial. Cumulative impacts: Minor short- and long-term, adverse impacts for other uses.
Cultural Resources	PWC use impacts: Minor adverse impacts on listed or potentially listed archeological sites from possible illegal collection and vandalism. Cumulative impacts: Minor to major adverse, due to the number of visitors and the potential for illegal collection or destruction.	PWC use impacts: Minor adverse impacts on listed or potentially listed archeological resources from possible illegal collection and vandalism. Based on speed zones and speed restrictions from arm areas into main body areas. Beneficial impact on those resources from the reduced erosion resulting from higher speeds. Cumulative impacts: Minor to major and adverse effects of other activities on archeological resources that are readily accessible due to the number of visitors and the potential for illegal collection or destruction.	PWC use impacts: Beneficial impacts on archeological sites. Cumulative impacts: Minor to major effects, accessibility of the resource and the potential for illegal collection or damage by other users. No increase based on PWC use.

Impact Topic	Alternative A: Reinstate PWC Use under a Special Regulation as Previously Managed	Alternative B: Reinstate PWC Use under a Special Regulation with Additional Management Prescriptions (Preferred Alternative)	No-Action Alternative: Allow No PWC Use
Socioeconomic Effects	No change in consumer surplus for PWC users or other visitors. No change in producer surplus to producers of PWC or non-PWC services. No change in welfare to local residents or the general public.	Very slight decrease in consumer surplus for PWC users. Slight increase in consumer surplus of non-PWC visitors. No change in producer surplus of producers of PWC services and small increase in producer surplus for producers of non-PWC services. Slight decrease in welfare to local residents who use PWC. Slight increase in welfare of local residents who do not use PWC as well as to the general public.	Decrease in consumer surplus for current and future PWC users. Increases in consumer surplus for most non-PWC visitors. Decrease in producer surplus for PWC rental and retail shops. Decrease in producer surplus for hospitality services in the area. Increase in producer surplus for producers of services to non-PWC park visitors. Increase in welfare to the general public and local residents who do not use PWC. Decrease in welfare to local residents who use PWC.
National Recreation Area Management and Operations			
Conflicts with State and Local Regulations	Negligible impacts since no conflicts with state or local regulations occur.	Same as alternative A.	No conflicts.
Impact to Park Operations from Increase Enforcement Needs	PWC use impacts: Moderate adverse impacts on park operations (more staff, funding, equipment, and educational material to regulate use).	PWC use impacts: Similar to alternative A, plus educational supplies needed.	PWC use impacts: Negligible adverse impacts on park operations with no additional staff, funding, or equipment.